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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/735,585

12/12/2003

James Hamden

020964-002810US

1730

20350

7590

08/03/2006

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EXAMINER

PAREKH, NITIN

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/735,585		HARDEN ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Nitin Parekh		2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12-12-03 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kadowaki (US Pat. 5057805).

Regarding claims 1, 5, 8 and 9, Kadowaki discloses a package for a semiconductor device comprising:

- a semiconductor die/an integrated circuit (IC) element (1 in Fig. 1 and 2) having a laterally conducting structure and a ground contact (not numerically referenced- see ground wires 5 connecting the contact sites on the die in Fig. 2; Col. 1) on an upper surface, and
- a leadframe (2 in Fig. 1 and 2) comprising:
  - o a die pad comprising a main die pad portion (see a portion of 3 under the die 1 in Fig. 2) in direct physical contact with a lower surface of the die and supplemental portions extending/projecting from the main portion (see portion of 3 surrounding the main portion on left/right and top/bottom sides being configured for ground wire connections in Fig. 2; also see wire

bond configurations of 5/15 in Fig. 2/4 respectively), die pad comprising copper (Col. 2, line 32)

- leads (see 7 in Fig. 2) being separated from the die pad, and
- the supplemental downbond die pad portions comprising portions located at middle left/right sides adjacent the die (see mid left/right portions being configured to receive downbond wires, the ground wire connection shown at the top/bottom and left/right portions using wires 5/15 in Fig. 2/4 respectively) being configured to receive downbond wires from the respective ground contacts (Col. 2, line 36)
- the supplemental die pad portions being molded in an epoxy/package and being positioned between an end of the package and the die (see Fig. 1) and the middle left/right portions being immediately between the lead and a second lead (see leads 7 immediately next to the middle left/right portions respectively in Fig. 2), the lead/second lead being separate from the die pad

(Fig. 1 and 2; Col. 1, lines 10-40; Col. 2, lines 20-63).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious

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at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kadowaki (see IDS-US Pat. 5057805) in view of the admitted prior art (APA).

Regarding claims 6 and 7, Kadowaki teaches substantially the entire claimed structure as applied to claim 1 above, except the die comprising a power IC and the die being configured to operate with a current of between about 1 and 20 Amps.

The APA teaches packages using conventional IC dice comprising a power IC where the dice are configured to operate with a current of between about 1 and 20 Amps (see specification pages 1, 2 and 4-7).

It would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the die comprises a power IC and the die being configured to operate with a current of between about 1 and 20 Amps as taught by the APA so the desired electrical performance requirements can be achieved in Kadowaki package.

#### ***Response to Arguments***

5. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nitin Parekh whose telephone number is 571-272-1663. The examiner can normally be reached on 09:00AM-05:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9318.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAN or Public PAG. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAG system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

NP

7-28-06



NITIN PAREKH

PRIMARY EXAMINER

TECHNOLOGY CENTER 2800